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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,917	01/30/2004	Raghu M. Ramajois	8200.809	3981
7590 03/24/2008				
Liniak, Berenato & White Ste. 240 6550 Rock Spring Drive Bethesda, MD 20817				
EXAMINER				
PILKINGTON, JAMES				
ART UNIT		PAPER NUMBER		
3682				
MAIL DATE		DELIVERY MODE		
03/24/2008		PAPER		

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/766,917
Filing Date: January 30, 2004
Appellant(s): RAMAJOIS ET AL.

Matthew F. Johnston
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 12, 2007 and the amended section filed January 8, 2008 appealing from the Office action mailed July 12, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

US 11/139,533

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4,595,118	Azuma et al.	6-1986
4,351,203	Fukunaga	9-1982
5,724,864	Rodgers et al.	3-1998
3,422,982	Terwoerds et al.	4-1967

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

A. Claims 1, 2, 5, 6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga, USP 4,351,203 in view of Azuma et al, USP 4,595,118.

Re clm 1, Fukunaga discloses a device having a hollow casing (5) including continuous side wall having at least one hole (55) there through, the hollow casing having an opening (51) formed in a lower portion and a vent tube (7).

Fukunaga does not disclose said vent tube extending within said hollow casing so as to from a cavity between an inner peripheral surface of said casing and an outer peripheral surface of said vent.

Azuma teaches extending the vent tube (32) within said hollow casing (20) forming a cavity between the hollow Casing (20) and the vent tube (32) and said vent tube (32) having a first open end disposed within said hollow casing (20) and a second end extending outside said casing in communication with an external environment (Fig. 2) for the purpose of providing an air-breather device which is capable of preventing any external leakage even when immersed when the end is immersed in fluid (col. 1 lines 51-54).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Fukunaga and provide a vent tube extending within said hollow casing so as to form a cavity between an inner peripheral surface of said casing and an outer peripheral surface of said vent, as taught by Azuma.

Re clm 2, Azuma teaches that both the vent tube (32) and the hollow casing (20) are substantially cylindrical (Figs. 2 and 3) and the cavity created between the hollow casing (20) and the vent tube (32) is substantially annular.

Re clm 5, Fukunaga discloses that the second end of the vent tube (7) is formed with an external retention surface (72).

Re clm 6, Fukunaga in view of Azuma discloses that the hollow casing (5) includes a top end wall (71, Fukunaga) substantially closing said hollow casing, said vent tube (7) being connected and extending through said top end wall (Azuma Figure 2).

Re clm 19, Fukunaga discloses that the hollow casing includes a bottom wall (where casing bends inward) substantially closing said hollow casing, an opening (51) defined by a hole extending through the bottom wall.

B. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga, USP 4,351,203, in view of Azuma et al, USP 4,595,118, and further in view of Rodgers et al, USP 5,724,864.

Re clms 3 and 11, Fukunaga in view of Azuma discloses all of the claimed subject matter as described above, and further discloses that the at least one hole (55) is located on a longitudinal first side portion of said casing adjacent said long side of said vent tube.

Fukunaga and Azuma do not disclose the vent tube has a beveled end/non-truncated such that and an oblique opening is formed in the first end of the vent tube, the vent tube having a long side and a short side.

Rodgers et al teach adding a bevel (116) to the end of the vent shaft (114) those creating an oblique opening and a vent tube having a long side and a short side (Figure 2) for the purpose of increasing the surface opening of the passageway (col. 4 lines 26-27).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Fukunaga and Azuma and provide a bevel on the end of the vent tube, as taught by Rodgers, to increase the surface opening of the passageway. The resulting device, Fukunaga in view of Azuma further in view of

Rodgers, discloses a hole through the sidewall of the casing being located on a longitudinal first side portion of the casing adjacent to the long side of the vent tube.

C. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga, USP 4,351,203, in view of Azuma et al, USP 4,595,118, in further view of Rodgers et al, USP 5,724,864, and further in view of Terwoerds et al, USP 3,422,982.

Fukunaga discloses the use of multiple holes (55, 55') to insure that at least one opening is always open to the interior of the gear housing and one hole is always located on the downstream side of lubricant flow (col. 2 line 51-59).

Fukunaga does not disclose spacing the holes apart longitudinally.

Terwoerds et al teach spreading holes (24) apart longitudinally or in any geometric relationship (col 3 lines 26-32) for the purpose of separating oil from the air being vented out (col 4 lines 43-51).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Fukunaga and provide holes that are longitudinally separated, as taught by Terwoerds et al, to provide a means of separating the liquid from the escaping air.

D. Claims 7-10, 12, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azuma et al, USP 4,595,118 in view of Fukunaga, USP 4,351,203.

Re claim 7, Azuma discloses a vent assembly comprising a hollow casing (20) secured in a housing (12), said casing including a continuous side wall (outside of

casing) that terminates at a lower portion (at 24A) having an opening (24A), and a vent tube (32) extending within said hollow casing (20) with a first end disposed in the casing and a second end communication with the external environment (see Figure 2).

Azuma does not disclose that the continuous side wall has at least one hole.

Fukunaga teach a continuous side wall (5) having a hole (55) for the purpose of creating a ventilation effect so that the pressure between the inside of the housing and the outside environment is maintained (C3/L2-17).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Azuma and provide the continuous side wall with a hole, as taught by Fukunaga, for the purpose of creating a ventilation effect so that the pressure between the inside of the housing and the outside environment is maintained.

Re clm 8, Azuma discloses that a substantial portion of the casing (20) is disposed in a recessed cavity (cavity with fluid, see Figure 2).

Re clm 9, Azuma discloses that the hollow casing (20) includes a substantially flat top end wall (22) substantially closing said casing (20), said top end wall having a peripheral surface extending beyond said side wall (wall of 20) substantially about a periphery of said vent tube (32).

Re clm 10, Azuma discloses that the peripheral surface (surface of 22) engages an external surface of said housing (12), said vent tube (32) being connected to and

extending through said top wall (22) and a bore (hole for vent assembly) formed in said external surface of the housing (12).

Re clm 12, Azuma discloses that both the vent tube (32) and the hollow casing (20) are substantially cylindrical (Figs. 2 and 3) and the cavity created between the hollow casing (20) and the vent tube (32) is substantially annular.

Re clm 16, Azuma discloses that the hollow casing (20) includes a top end wall (22) substantially closing said hollow casing, said vent tube (32) being connected and extending through said top end wall (Figure 2).

Re clm 20, Azuma discloses that the hollow casing (20) includes a bottom wall (where casing bends inward) substantially closing said hollow casing (20), an opening (24A) defined by a hole extending through said bottom wall.

E. Claims 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azuma et al, USP 4,595,118, Fukunaga, USP 4,351,203, in view of Fukunaga, USP 4,351,203, and further in view of Rodgers et al, USP 5,724,864.

Re clm 13 and 17, Azuma in view of Fukunaga disclose all of the claimed subject matter as described above, and further discloses that the at least one hole (55) is located on a longitudinal first side portion of said casing adjacent said long side of said vent tube.

Azuma and Fukunaga et al do not disclose the vent tube has a beveled end/non-truncated such that and an oblique opening is formed in the first end of the vent tube, the vent tube having a long side and a short side.

Rodgers et al teach adding a bevel (116) to the end of the vent shaft (114) those creating an oblique opening and a vent tube having a long side and a short side (Figure 2) for the purpose of increasing the surface opening of the passageway (col. 4 lines 26-27).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Azuma and Fukunaga et al and provide a bevel on the end of the vent tube, as taught by Rodgers, to increase the surface opening of the passageway. The resulting device, Azuma in view of Fukunaga further in View of Rodgers, discloses a hole through the sidewall of the casing being located on a longitudinal first side portion of the casing adjacent to the long side of the vent tube.

F. Claims 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azuma et al, USP 4,595,118, in view of Fukunaga, USP 4,351,203, in further view of Rodgers et al, USP 5,724,864, and further in view of Terwoerds et al, USP 3,422,982.

Azuma in view of Fukunaga and Rodgers discloses all the claimed subject matter as disclosed above.

Azuma in view of Fukunaga and Rodgers does not disclose having two holes and the holes being spaced apart longitudinally.

Terwoerds et al teach spreading holes (24) apart longitudinally or in any geometric relationship (col 3 lines 26-32) for the purpose of separating oil from the air being vented out (col 4 lines 43-51).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Azuma in view of Fukunaga and Rodgers and provide holes that are longitudinally separated, as taught by Tenwoerds et al, to provide a means of separating the liquid from the escaping air.

G. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Azuma et al, USP 4,595,118 in view of Fukunaga, USP 4,351,203.

Azuma in view of Fukunaga discloses all the claimed subject matter as applied to claim 7.

Azuma in view of Fukunaga, as applied to claim 7, does not disclose the second end of the vent tube being formed with an external retention surface.

Fukunaga teach the a vent tube (7) having a second end with an external retention surface (72) for the purpose of providing a securement means for the cap of the vent tube (C2/L38-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Azuma in view of Fukunaga and provide the vent tube with a second end that has an external retention surface, as taught by Fukunaga, for the purpose of providing a securement means for the cap of the vent tube.

(10) Response to Argument

A. Re claims 1, 2 and 7 the Applicant argues that (see pages 5-6):

- One of ordinary skill in the art would not combine Azuma in view of Fukunaga since Azuma teaches away from a hole in the side wall
- One of ordinary skill in the art would not combine the references because they are used in different environments (non-analogous)

The Applicant appears to be basing the argument that one of ordinary skill would not add a hole to Azuma on the fact that the deflector in Azuma would cover the hole. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Claim 7 does not require that the hole be in any particular location on the casing. Since the claim does not require the hole to be in any particular location one of ordinary skill in the art would indeed be motivated by Fukunaga to add a side hole at any location on the casing of Azuma, not the deflector, for the purpose of creating a ventilation effect so the pressure between the inside of the housing and the outside environment is maintained (Fukunaga, C3/L2-17). Therefore, the rejection of claim 7 should be maintained.

It is noted that in this section, pages 5 and 6 of the Appeal Brief, the Applicant is arguing independent claim 1 which is rejected under Fukunaga in view of Azuma along with claim 7 which is rejected under Azuma in view of Fukunaga. These are two

independent rejections and only the rejection of claim 7 teaches a hole to Azuma which the Applicant is arguing in this section. The Applicant has not argued why one would not modify Fukunaga in view of Azuma as applied to claim 1.

Regarding the Appellant's argument that the references are non-analogous, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Azuma and Fukunaga are analogous because they fill prong one and prong two of this test. The applicant states on pages 1 and 2 of the specification that their invention is a breather that can vent gas and prevent leakage of lubrication. Azuma states that his invention is a breather plug for an oil casing which is designed to prevent oil leakage, see col. 1 lines 49-54. Fukunaga discloses in col. 1 lines 31-33 that the object of his invention is to provide a breather plug assembly that prevents oil leakage. Since both of these references are in the same field of endeavor and pertinent to the problem of the instant application the rejection should be maintained.

In addition, one of ordinary skill in the art would be motivated to combine Fukunaga and Azuma since both references relate to the breather plugs designed to prevent leakage from a casing which contains oil or other lubricant. With respect to claim 1 (Fukunaga in view of Azuma) Azuma provides motivation for extending the vent

tube into the breather casing in col. 1 lines 51-54 which is to prevent any external leakage even when immersed in fluid. One would also be motivated to substitute the vent tube of Fukunaga with a vent tube which extends into the breather casing as taught by Azuma since substitution of one known vent tube for another would achieve the predictable result of preventing oil leakage. With respect to claim 7 (Azuma in view of Fukunaga) Fukunaga provides motivation for adding a hole to the casing body in col. 3 lines 2-17 which is to create a ventilation effect so that the pressure between the inside outside of the vent tube casing is maintained which prevents lubricant from being exhausted out of the vent tube.

B. Re claims 3, 11, 13 and 17 the Applicant argues (see pages 6-8), in addition to Fukunaga in view of Azuma and Azuma in view of Fukunaga being improper, that:

- The examiner is relying on hindsight reconstruction and that no motivation is found in Rodgers to modify the end of the tube of Azuma
- None of the references teach at least one hole through the sidewall of the casing located on a longitudinal first side portion of the casing adjacent the long side of the vent tube

Rodgers does indeed provide motivation for modifying the end of a vent tube. This motivation is found in col. 4 lines 26-27 of Rodgers and is as follows: to increase the surface opening of the passageway. One of ordinary skill in the art knows that increasing the surface area of an opening helps improve the flow through the vent tube,

in addition Rodgers also states in the same section that this beveled end also acts to prevent lubricant from bridging the opening. Thus, even if a beveled vent tube is not required in Azuma (Azuma in view of Fukunaga/Fukunaga in view of Azuma) one of ordinary skill in the art would look to Rodgers and make the tube beveled to further improve the device of Azuma by adding a second means of preventing lubricant from escaping the tube.

Regarding the position of the Applicant that none of the references teach the long side of the tube being near the hole in the casing it is the Examiner's position the combination of Azuma, Fukunaga and Azuma results in this limitation.

C. Regarding claims 4, 14 and 18, the Applicant argues (see page 8) that none of the prior art teaches longitudinally coextensive holes.

The Examiner argues that coextensive only means that objects must only share the same limits, boundaries or scope. In other words, if two objects or holes are located along the same member they are coextensive which leaves room for the holes in a prior art reference to be arranged in different radial or axial positions. It appears to the examiner that the applicant is intending to use the word coextending, but since the claim only recites coextensive, it is the examiner's position that Azuma in view of Fukunaga, in view of Rodgers and further in view of Terwoerdes renders the rejection of claim 4, 14 and 18 obvious.

Art Unit: 3682

D. Regarding claims 19 and 20 the Applicant argues (see page 8) that the prior art clearly fails to disclose a bottom end wall substantially closing the casing.

The examiner disagrees and argues that both Azuma and Fukunaga disclose this limitation. Both Azuma and Fukunaga show a bottom of the casing that angled inward toward the central axis of the casing creating a bottom wall. The ends of angled walls do not connect with each other which results in openings (Fukunaga 51 and Azuma 24A). Thus the bottom end wall of both references only substantially closes the casing.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/James Pilkington/

Examiner, Art Unit 3682

Conferees:

/Richard WL Ridley/

Supervisory Patent Examiner, Art Unit 3682Richard Ridley

Meredith Petravick /mcp/

